Homework 7

Christophe Hunt

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The bridges and land masses of a certain city can be modeled with graph G in figure 8.7.

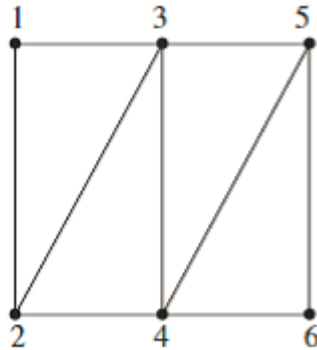

Figure 1:

1.1   a. is G Eularian? Why or why not?

No, because there are vertices of odd degrees (2 and 5).

1.2   b. Suppose we relax the requirement of the walk so that the walker need not start and end at the same land mass but still must traverse every bridge exactly once. Is this type of walk possible in a city modeled by the graph in figure 8.7? If so, how? If not, why not?

Yes it is possible to travese each edge once.
We can start our walk at 2 and then traverse as follows:
1. 2 to 1
2. 1 to 3
3. 3 to 2
4. 2 to 4
5. 4 to 5
6. 5 to 3
7. 3 to 4
8. 4 to 6
9. 6 to 5

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Consider the graph in Figure 8.11.

2.1   a. Write down the set of edges E(G)

2.2   b. Which edges are incidnent with vertex b?

2.3   c. Which vertices are adjacent to vertex c?

2.4   d. Compute deg(a)

2.5   e. Compute $|E(G)|$

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